SeaVision

System Requirements Specification (SRS)

SeaVision Release 3.0

SRS Version 3.0

July 2017

Approval Report

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Revision History

Date	Version	Description	Author/Editor
June 9, 2015	1.0	Final release for USFFC signature	Tate Radlinski
November 13, 2015	1.05	Updates from IOC (1.0) Demo, MOC Delivery, and FOC (2.0) Technical Planning meeting	Tom Vilevac
December 01, 2015	1.07	Updates from EAMDA review	Tom Vilevac
December 17, 2015	1.32	Consolidate: EAMDA with DESC, SPAWAR, VOLPE	Tom Vilevac
December 18, 2015	2.0	Final release for USFFC signature	Tate Radlinski
February 02, 2016	2.0	Added Fleet (FFC, C3F, C4F, NAVCENT, C6F, CPF) input prior to USFFC signing	Tom Vilevac
April 27, 2017	2.1	Revised based on 2.0 release/roll-out	Tate Radlinski
June 29, 2017	2.2	Initial 3.0 for USFF Review	Tate Radlinski
July 20, 2017	3.0	Final release for USFF signature	Tate Radlinski

Table of Contents

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1. INTRODUCTION

This document captures mission, functional, derived, and system requirements for SeaVision.

1.1 BACKGROUND

A requirements letter from Commander, U.S. Fleet Forces Command to N2/N6[1] outlines a Fleet requirement for enterprise access to maritime data, automated analytics and information sharing capabilities to support operational level MDA in an Unclassified/Non-PKI environment. Additionally, in 2016 a revision to the OPNAV N2/N6 Core Baseline (CB) and Mission Builds (MB) was released to reflect modernization upgrades and to establish the approved MOC CB/MB.

SeaVision 1.0 was delivered in September 2015 as a solution to the Operational Level Unclassified/Non-Public Key (Non-PKI) Maritime Domain Awareness (MDA) Requirements Letter and revision to the OPNAV N2/N6 Core Baseline (CB) and Mission Builds (MB).

SeaVision 2.0 was delivered in January 2017 to satisfy updated requirements, and enhanced sharing capabilities. SeaVision 2.0 user and information management is through the use of communities and personas. Communities and personas enhance management of shared data and objects.

1.2 OVERVIEW

SeaVision is an internet based application providing users with an unclassified information sharing, visualization and analytical capability. SeaVision automates the collection of maritime data from a variety of sources and applies that data against user defined business rules and algorithms. The data and rule results are available to a global, authorized user community.

[1] Operational Level Unclassified/Non-Public Key (Non-PKI) Maritime Domain Awareness (MDA) Requirements Letter, 03 Nov 2014

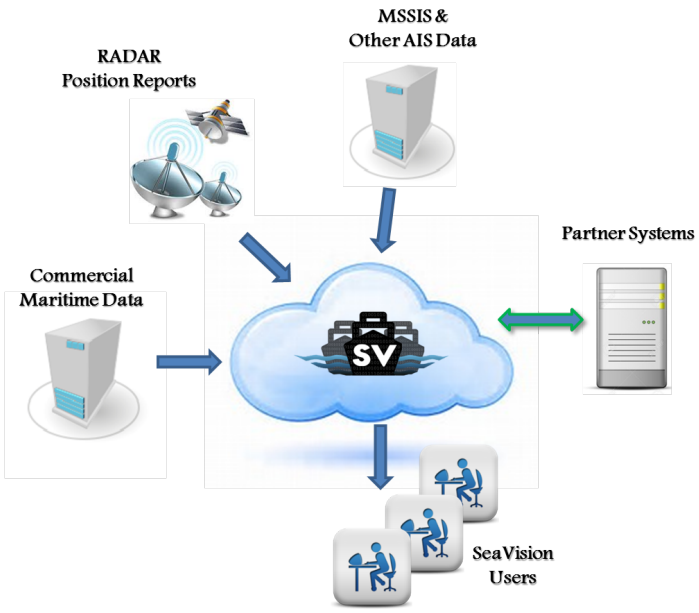

Figure 1 : SeaVision Conceptual Overview

Functionally, SeaVision is made up of three core parts: Common Maritime Picture, Analytics, and Administration.

Common Maritime Picture (CMP): A Google Maps based geospatial visualization of near real-time maritime information and analytical results. Includes settings and functions that enables a user configurable CMP.

Analytics: Search and automated rules based computations applied against near real-time and historical data. Includes user defined and adjustable parameters.

Administration: User and data management functions. Management of Communities, Personas and users to include the access authorization to appropriate data sets.

1.3 GUIDING OBJECTIVES

The following overarching objectives guide the development and implementation of SeaVision.

1.3.1 PROGRAM MANAGEMENT

The business processes and system requirements for SeaVision are managed by the SeaVision Office of Primary Responsibility (OPR) (N2N6I), with the exception of those supporting services or capabilities provided by partner systems. The OPR approves all

design or implementation features that preclude, prevent or alter any previously agreed upon requirement defined in this document.

SeaVision provides system audits/metrics to the OPR for program management and compliance.

1.3.2 SEAVISION APPLICATION

SeaVision utilizes a Service-Oriented Architecture (SOA) to maximize the reuse of application-neutral services to increase IT adaptability and efficiency within the enterprise. More specifically, SeaVision is designed as a loosely coupled set of functional modules accessible via web services and modularized front end web interfaces.

SeaVision SOA is implemented via web services using standardized REpresentational State Transfer (RESTful) Application Program Interfaces (APIs).

SeaVision will make maximum use of commercial and government off-the-shelf components and leverage other DoD and USG capabilities.

User interaction for data entry, processing and extraction is done using a standard web browser with an emphasis on HTML5 compliance and modularized components. SeaVision is available with all compatible browsers, but is optimized for use with Google Chrome.

SeaVision physical infrastructure exists outside DoD IT systems for use and access by users on the Internet.

SeaVision provides outputs and products in the form of emails, notifications, spreadsheets and variety of other formats.

1.3.3 DATA MANAGEMENT

To the greatest extent possible, database access will be via an abstracted layer (i.e. Stored Procedures) or web service (i.e. RESTful API).

SeaVision will support a range of industry and DoD data standards for import and export of data and products, and will utilize documented, standardized RESTful APIs for data and product access through defined web interfaces.

SeaVision will adopt and implement maritime exchange models and processes to align with Department of Defense policy.

1.3.4 USER MANAGEMENT

All users will be validated and approved by a DoD or DoT civil service employee. The OPR reserves the right for final authorization.

SeaVision employs role based access controls (RBAC) with each role defined as a mission specific persona. All access to data sources, capabilities, rules or products will be managed by persona.

Users are managed individually by Administrators or as part of a community by the Community Manager. All users are part of one or more communities. An individual user may have multiple roles, or personas, based upon different missions. Each persona uniquely identifies the mutually exclusive role that user is serving within the authorities of the community they are participating.

1.4 DOCUMENT FORMAT

The requirements are separated into two components; Requirement Description and Requirement Status. The Requirement Description consists of the requirement number and description. The Requirement Status consists of an acknowledgment of the requirement as a present or future capability, the implementation priority, status, release, risk and general comments.

Acknowledgement: an X in the box denotes that the capability is available in the most current version of SeaVision.

Priority is a numerical value 1-3; 1-highest priority from requirements owners for incremental release 2- delivered as Final Operational Capability (FOC), and 3- Future Capability.

FOC for SeaVision 3.0 is December 31, 2018. Incremental releases will be quarterly to deliver priority functions and will be delivered per schedule below:

September 30, 2017 - SeaVision 2.1

December 31, 2017 – SeaVision 2.2

March 30, 2018 – SeaVision 2.3

June 30, 2018 – SeaVision 2.4

September 30, 2018 – SeaVision 2.5

December 31, 2018 – SeaVision 3.0

Status is defined as:

AGREED (AG): All document signatories agree on the requirement

NOT AGREED (NA): One or more document signatories disagree on the requirement

ACTIVE (AC): Development for next release has begun on the requirement

COMPLETED (CP): The requirement has been fulfilled

DROPPED (DR): The requirement has been dropped as agreed upon by all document signatories

No requirement agreed upon will be deleted, but may be dropped. If dropped, the date and reason will be noted.

Release is the version the requirement will be delivered. No entry implies the release schedule has not been determined.

2. ADMINISTRATION & INFRASTRUCTURE

Top Level Requirement:

"For missions of Theater Security Cooperation (TSC), Capacity building and Outreach, NCCs/NFCs have the requirement to support Combatant Commanders by providing an enterprise-wide Non-CLAS low bandwidth environment for low end users without resources to fund themselves. Access to this environment shall increase our mission partner's situational awareness and foster collaboration."

2.1 USER MANAGEMENT

SeaVision 2.0 user and information management is through the use of communities and personas. Communities are groups of users with a shared mission and are managed by a Community Manager. A persona is a focused sub-group within a community. Personas are created by the Community Manager who assigns users to the appropriate persona within the Community. Access to a persona gives users access to authorized data and shared objects. A user is any person with a SeaVision account. Users are assigned to one or more communities/personas.

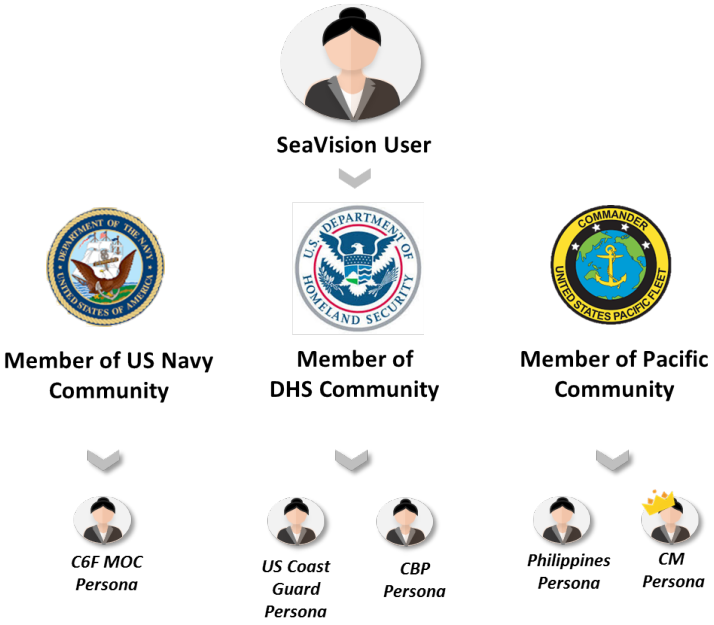

Figure 2 : User Management Hierarchy

The user management hierarchy improves management and sharing. Users can create and share searches, rules, alerts, vessel lists and notes. Sharing leads to collaboration and understanding within communities and personas.

SeaVision uses password protected user accounts for management and associated personas for access control of information, products, features and capabilities. Each SeaVision user will have one user account per unique email address.

A single user may belong to multiple personas in one or more communities to support a variety of missions. To ensure data sources, capabilities, rules or products are not mixed between communities and personas, a user with multiple personas will only be able to access one persona at a time through a sign-on selection screen.

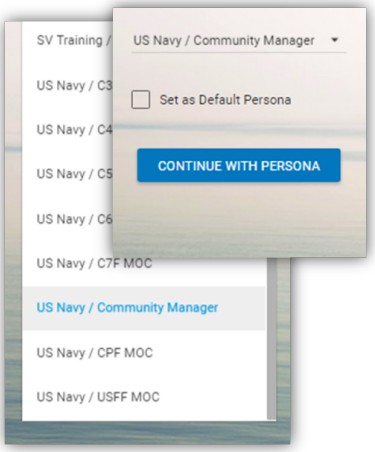

Figure 3 : Persona Selection Screen (Example)

User Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.1.1 GENERAL					
2.1.1.1 Users can be remotely managed from any web browser with internet access.	X				
2.1.1.2 User management will be via a user friendly web page.	X				
2.1.1.3 User management will be administered as currently implemented in SeaVision.	X				SV 1.0 Requirement
2.1.1.4 User interfaces will support Multi-lingual mission partners.		3	NA		
2.1.1.5 Allow for users to discover communities by name.	X				
2.1.2 USERS					
2.1.2.1 The system shall have the ability to manage user accounts.	X				
2.1.2.1.1 User management screens will display *all* information and access data associated to a user.	X				
2.1.2.1.2 A user will only have one SeaVision account per unique email address.	X				

User Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.1.2.1.3 User accounts that are inactive for 45 days will be flagged to be disabled.	X				
2.1.2.1.3.1 Applicable mangers will be notified of flagged accounts.	X				
2.1.2.1.3.2 Flagged accounts will be disabled after 30 additional days (75 days total).	X				
2.1.2.1.4 User accounts that have been disabled for 180 days will be archived and user resources will be deleted.		2	AG	3.0	
2.1.2.1.5 System will have ability to re-activate archived accounts.		1	AG	2.x	
2.1.2.1.6 System shall allow for a user to only access one persona at a time.	X				
2.1.2.1.7 System shall allow for a user to change between personas.	X				
2.1.2.2 The system shall have the ability to manage Administrator user accounts.	X				
2.1.2.2.1 Create account.	X				
2.1.2.2.2 Save account.	X				
2.1.2.2.3 View/Edit/Update account.	X				
2.1.2.2.4 Delete account.	X				
2.1.2.2.5 View user(s) identified as Administrator.	X				
2.1.2.3 Administrators will manage Communities and Community Manager persona account.	X				
2.1.2.3.1 Administrators inherit CM permissions for all Communities created	X				
2.1.2.3.2 Create Community.	X				
2.1.2.3.2.1 Create Community Manager persona.	X				
2.1.2.3.2.2 Assign user(s) to Community Manager persona.	X				
2.1.2.3.2.2.1 Create new user account.	X				

User Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.1.2.3.2.2.2 Save user account.	X				
2.1.2.3.2.2.3 View/Edit/Update user account.	X				
2.1.2.3.2.3 Remove user from Community Manager persona.	X				
2.1.2.3.3 Save Community.	X				
2.1.2.3.4 View/Edit/Update Community.	X				
2.1.2.3.5 Delete Community.	X				
2.1.2.3.5.1 Disable Community Manager user accounts that are only associated with deleted Community.	X				
2.1.2.3.6 Specify data sources available to a Community.	X				
2.1.2.3.7 Ability to view list of all users in system.	X				
2.1.2.3.8 Ability to see what other communities/personas a user is associated with.	X				
2.1.2.3.9 Ability to export list/spreadsheet of all users in system with user data		1	AC	2.x	
2.1.2.4 Community Managers will manage personas within their community.	X				
2.1.2.4.1 Create a new persona.	X				
2.1.2.4.2 Save persona.	X				
2.1.2.4.3 Edit/Update persona.	X				
2.1.2.4.4 Delete persona.	X				
2.1.2.4.5 View user(s) in personas.	X				
2.1.2.4.6 No persona will inherit authorities from any other persona.	X				
2.1.2.4.7 Associate data source elements within their Community Manager persona to other persona(s) within their community.	X				
2.1.2.4.8 Add geospatial filters to a persona (only pre-defined including EEZ and AOs).	X				

User Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.1.2.5 Community Managers will manage accounts for users associated to Personas within their community.	X				
2.1.2.5.1 Community Managers will receive notification when a user (either existing or potential) has requested access to his or her Community.	X				
2.1.2.5.1.1 Ability to see verified user details to include organization and nationality (a Community Manager may require additional details).	X				
2.1.2.5.1.2 If request is from an existing SeaVision user, ability to see other personas the user has access to including data rights.	X				
2.1.2.5.2 Ability to visualize/ sort/filter/search users within in each persona within their community by user data in profile page		1	AC	2.x	
2.1.2.5.2.1 Ability to export a list/spreadsheet of all users at persona or community level with selected user data		1	AC	2.x	
2.1.2.5.3 Ability to view usage metrics (log-in frequency, allowable concurrent/numbered users, active users, account activity) at the user, persona and community level		1	AC	2.x	
2.1.2.5.3.1 Ability to export list/spreadsheet of all users at persona or community level with selected metrics data		1	AC	2.x	
2.1.2.5.4 Ability to filter active and disabled users within persona/community		1	AC	2.x	
2.1.2.5.5 Ability to view metrics associated with number or rules/alerts/shared objects at the user, persona and community level		1	AC	2.x	

User Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.1.2.6 Community Managers can only manage personas/users associated to their community.	X				
2.1.2.6.1 Create a new user account.	X				
2.1.2.6.2 Save user account.	X				
2.1.2.6.3 Change PW for user account		1	AC	2.x	
2.1.2.6.4 Edit/Update user account.	X				
2.1.2.6.5 Remove user from persona.	X				
2.1.2.6.6 Create a shared functional account with a unique process/form to differentiate it from a user account.		1	AC	2.x	
2.1.2.6.7 Save shared functional account.		1	AC	2.x	
2.1.2.6.8 Change PW for shared functional account.		1	AC	2.x	
2.1.2.6.9 Edit/Update shared functional account.		1	AC	2.x	
2.1.2.6.10 Remove shared functional account from persona.		1	AC	2.x	
2.1.2.6.11 Ability to easily view/filter user accounts and functional accounts to differentiate the two types of accounts		1	AC	2.x	
2.1.2.6.11.1 Cannot delete user account if user is associated with a persona in a different Community		1	AC	2.x	
2.1.2.6.12 Associate an authorized, existing user account to a persona within their community.	X				

2.2 USER SUPPORT & TRAINING

User support is defined as ad-hoc, on demand help. User support will be provided via online information pages, online chat, email, or help desk. Online user support will be in the form of help pages and pop up information boxes. Help desk support (phone, chat, email) will be provided during regular working hours (EST).

Training is defined as prepared information delivery. Training may be printed documentation, face-to-face, or via remote delivery format. All program delivered training will be on SeaVision functionality. Training on SeaVision use or processes supporting

specific operational processes, such as Tactics, Techniques, and Procedures (TTPs) will be the responsibility of the Community Manager.

User Support & Training Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.2.1 USER SUPPORT					
2.2.1.1 The system shall provide online help support.	X				
2.2.1.1.1 Information pages via help function describing operational overview/context.	X				
2.2.1.1.2 Context driven help function via pop-up information boxes.	X				
2.2.1.2 The system shall provide Help Desk support in a timely manner.		2	AG	3.0	
2.2.1.2.1 Phone: Weekdays 0800-1600 EDT.	X				
2.2.1.2.2 Chat: Weekdays 0800-1600 EDT.		2	AG	3.0	
2.2.1.2.3 Email: Evenings, Weekends & Holidays.	X				
2.2.2 TRAINING					
2.2.2.1 The program shall provide printed documentation training on SeaVision functionality.		1	AG	2.x	
2.2.2.1.1 The program shall provide [updated] printed documentation training on SeaVision functionality.		1	AG	2.x	
2.2.2.2 The program shall provide face-to-face training on SeaVision functionality to Community Managers.		2	AG	3.0	As needed and as funding permits
2.2.2.2.1 The program shall provide one on-site training visit to each MOC upon transition.		2	AG	3.0	As funding permits
2.2.2.3 The Community Managers shall provide remote delivery training on SeaVision functionality and practices to Community Users.			DR		Dropped as requested by Fleet
2.2.2.3.1 Partner Nation Training.			DR		Dropped as requested by Fleet
2.2.2.3.2 Mobile Training Team.			DR		Dropped as requested by Fleet

2.3 PERFORMANCE, AVAILABILITY & RELIABILITY

SeaVision will provide 99.9% availability. "Unavailable" is defined as unscheduled interruptions to operations. Availability applies to the user interface (web page) and product delivery (web services). Data sources are the responsibility of the provider and beyond the control of the program.

Performance, Availability & Reliability Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.3.1 GENERAL					
2.3.1.1 The system shall operate at the unclassified level.	X				
2.3.1.2 The system shall operate within a commercial cloud infrastructure environment.	X				
2.3.2 PERFORMANCE					
2.3.2.1 The system shall provide full user experience for basic internet user.	X				
2.3.2.2 The system shall operate in a reduced bandwidth environment.		1	AC	2.x	
2.3.2.3 All user experiences will provide the same functionality.	X				
2.3.2.4 System shall operate in environments with intermittent network connectivity with intermittent connection periods of less than 10 seconds at a time.		1	AC	2.x	
2.3.3					
2.3.3.1 The system shall scale to support changing user load and operations.		2	AG	3.0	
2.3.3.1.1 The system shall support normal operations of NLT 500 concurrent users.		1	AG	2.x	
2.3.3.1.2 The system shall support surge operations of NLT 1500 concurrent users.		2	AG	3.0	
2.3.3.1.3 Scaling from normal to surge operation shall take NMT 24 hours.		2	AG	3.0	
2.3.3.2 The system shall provide full replication of all databases.		2	AG	3.0	
2.3.4					
2.3.4.1 The system shall provide 99.9% availability.		2	AG	3.0	

Performance, Availability & Reliability Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
2.3.4.1.1 The system shall be fully redundant.		2	AG	3.0	Redundancy with AWS is sufficient and within budget
2.3.4.2 The system shall have disaster recovery Continuity of Operations (COOP) plan.		2	AG	3.0	
2.3.4.2.1 The COOP plan will be tested semi-annually.		2	AG	3.0	
2.3.4.3 Planned system maintenance and scheduled downtime shall be NMT (no more than) 4 hours at any time during a 24 period with no more than one period of downtime over a 96 hour period.	X				
2.3.4.4 Notice of planned system maintenance and downtime shall be provided NLT 48 hours in advance, 72 hours if the notification is over a weekend or holiday.	X				

3. COMMON MARITIME PICTURE (CMP)

Top Level Requirement:

"For missions previously stated, NCCs/NFCs have a requirement for data to be made available for display, which includes presentation of a common maritime picture (CMP) on a geographic presentation. The data should also allow for generation of a user-defined operational picture."

The CMP is a geospatially referenced map display. The contents of the CMP are user configurable to the extent possible. A tabular display of business rules or their results is not part of the CMP. However, scores or alerts based upon business rules may be presented as they relate to vessel via icon definition and display.

3.1 USER EXPERIENCE

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
3.1.1 GENERAL					
3.1.1.1 The system shall allow for access via mobile devices.		3	AG		
3.1.1.1.1 System shall be fully functional via mobile devices		3	AG		
3.1.2 GEOSPATIAL DISPLAY					
3.1.2.1 The system will provide a geospatial user interface to display and manage maritime information.		2	AG	3.0	
3.1.2.1.1 Google Maps is the geospatial visualization platform.	X				
3.1.2.1.2 Allow export into Google Earth.	X				
3.1.2.1.3 Export KML Layers.	X				
3.1.2.1.4 Export WMS Layers.		2	NA		Clarification needed from USFF re: WMS
3.1.2.2 The system shall allow user to set default view for map when user logs in (not based solely on location of IP address).	X				
3.1.2.3 The system shall allow user to input Lat,Long (comma separated) in the "Map Layers – Jump to Location" feature; this is in addition to 'location' input which can be a city or country	X				
3.1.2.3.1 Add placeholder in the 'Jump to Location' entry box to intuitively			DR		Description is not requirement, rather an

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
imply what can be entered.					implementation approach
3.1.2.4 The system shall allow the user to turn on/off official COCOM Area of Operation (AO) boundaries as map layer.	X				
3.1.2.5 The system shall allow for the user to bookmark different views, not only during the start-up view that can be set.	X				
3.1.2.6 The system shall allow user the ability to save filter combinations that can be activated automatically upon login.	X				
3.1.2.7 The system shall allow import and management of layers in KML and/or WMS formats.		1	NA		Need clarification re: WMS SV will not host/manage layers
3.1.3 BROWSER					
3.1.3.1 The system shall provide support to standard web browser-optimized for Google Chrome	X				Modified from Internet Explorer 11
3.1.4 USER DEFINED COMMON MARITIME PICTURE CMP					
3.1.4.1 The system shall allow for generation of data and to be made available for display on CMP and user-defined operational picture.	X				
3.1.4.1.1 Business Rules.	X				
3.1.4.1.2 Shapes/Areas of Interest.	X				
3.1.4.1.2.1 Create.	X				
3.1.4.1.2.2 Edit.	X				
3.1.4.1.2.3 Delete.	X				
3.1.4.1.2.4 Share with Personas.	X				
3.1.4.1.2.5 Share with Communities.	X				
3.1.4.1.2.6 The system shall allow for the user to label / name a shape / Area of Interest.	X				
3.1.4.1.2.6.1 Shapes shall include rectangle, circle, polygon, polyline, and point.	X				
3.1.4.1.2.7 The system shall allow export of shapes as KML,	X				

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
CSV and JSON					
3.1.4.1.2.8 The system shall allow import of shapes as KML, CSV, and JSON	X				
3.1.4.1.2.9 The system shall show center (Lat/Long and dot) for shapes that are uniform.	X				
3.1.4.1.2.10 The system shall show 'distance' and 'area' for user identified Box/Circle.	X				
3.1.4.1.2.11 The system shall allow specification of shape lengths / radius for uniform shapes.	X				
3.1.4.1.2.11.1 Allow the ability for user to define units of measure (meters, nm)		2	AG	3.0	
3.1.4.1.2.12 The system shall allow ability to manually type comments about a shape.	X				
3.1.4.1.2.12.1 System shall allow ability for user to share comments to persona and community		1	AG	2.x	
3.1.4.1.2.13 Ability to select a single shape or subset of shapes to view on map		2	AG	3.0	
3.1.4.1.3 User Defined Vessel Lists.	X				
3.1.4.1.3.1 Add vessels to Vessel Lists.	X				
3.1.4.1.3.2 Remove vessels from Vessel Lists.	X				
3.1.4.1.3.3 Provide notes on vessels within a Vessel List.	X				
3.1.4.1.3.3.1 Ability to share notes with persona or community.	X				
3.1.4.1.3.3.2 Ability to tag notes with date/time stamp and users	X				

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
name.					
3.1.4.1.3.4 Ability to create/edit/delete/copy multiple Vessel Lists.	X				
3.1.4.1.3.5 Ability to export Vessel list with vessel information		1	AG	2.x	
3.1.4.1.3.6 Ability to view details for individual vessel in list, toggle history trail, and map individual vessel.	X				
3.1.4.1.3.7 Ability to share Vessel Lists.	X				
3.1.4.1.3.7.1 With other users.	X				
3.1.4.1.3.7.2 With other personas.	X				
3.1.4.1.3.8 Ability to map all vessels on Vessel List	X				
3.1.4.1.4 Distance measurement tool.	X				
3.1.4.1.4.1 Change colors (or +/- 180 deg) in distance tool (Rhumb Line / Great Circle) to denote start/stop.	X				
3.1.4.1.4.2 The system shall have the ability for the distance tool to 'hook' a vessel.	X				
3.1.4.1.4.3 The system shall have the ability for the distance tool to 'un-hook' a vessel.	X				
3.1.4.1.4.4 The system shall allow user the ability to define the length of the line (ie: exactly 100nm).	X				
3.1.4.1.4.5 The system shall allow the user to pick-up (or Drag) a line from one location to another.	X				
3.1.4.1.4.6 The system shall allow multi-segment lines and provide the total distance of all segments.	X				

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
3.1.4.1.5 System shall provide users with Time/Distance calculation measuring tool.		1	AG	2.x	
3.1.4.1.6 The system shall allow System Administrators and Community Managers the ability to generate simulated tracks.		1	AG	2.x	
3.1.4.1.6.1 Ability to share simulated tracks with persona/community		1	AG	2.x	
3.1.4.1.7 The system shall allow the user the ability to generate a pseudo contact that moves automatically with manually entered course and speed.		1	AG	2.x	
3.1.4.1.7.1 Ability to share pseudo contact with persona/community		1	AG	2.x	
3.1.5 DATA SELECTION (FILTER)					
3.1.5.1 The system shall allow the user to select (filter) available authorized data.		2	AG	3.0	
3.1.5.1.1 Select data by source.	X				
3.1.5.1.2 Select data by business rule outputs (Alerts, Warnings, and/or Notification Rules.)	X				
3.1.5.1.2.1 Alerts	X				
3.1.5.1.2.1.1 Allow selection of specific alert(s) to show results.	X				
3.1.5.1.2.1.2 Show applicable alert polygon when filter enabled.		2	AG	3.0	Currently shows ALL polygons associated to alerts
3.1.5.1.2.2 Rules	X				
3.1.5.1.2.2.1 Allow selection of specific rule(s) to show results	X				
3.1.5.1.2.2.2 Allow boundary configuration and selection of high / medium / low level rules scores.	X				
3.1.5.1.2.3 Warnings	X				
3.1.5.1.2.3.1 Allow Selection of	X				

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
Low, Medium, or High Safety/Security vessels.					
3.1.5.1.3 Select data by vessel type.	X				
3.1.5.1.4 Select data by CVISR level.			DR		CVISR not implemented by DoD
3.1.5.1.5 Select data by individual or all Vessel Lists	X				

3.2 VESSEL INFORMATION DISPLAY

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
3.2.1 GENERAL					
3.2.1.1 Vessel icon and color will indicate type and significance.	X				
3.2.1.1.1 Vessel type.	X				
3.2.1.1.2 Vessel Navigation Status.	X				
3.2.1.1.3 Custom Vessel Type.	X				
3.2.1.1.4 LOA Level.			DR		LOA not implemented by DoD
3.2.1.1.5 Warning Score.	X				
3.2.1.1.6 Alert.	X				
3.2.1.1.7 UDR Score.	X				
3.2.1.2 The system shall allow for the user to view 'user defined polygons' for alerts when showing alerts in Maps.	X				
3.2.1.3 The system shall have the ability for user to minimize or hide filters that are turned on so they don't hide screen (especially when several are activated/open).	X				
3.2.2 DATA BUBBLES (BASEBALL CARDS)					
3.2.2.1 Display AIS message based information in data balloons.	X				
3.2.2.2 Active links allow access of NIEM CVISR message based information in data balloons.			DR		CVISR not implemented by DoD

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
3.2.2.3 Link to US Coast Guard Risk Scores.	X				
3.2.2.4 User Defined Rule Scores.	X				
3.2.2.5 User defined Alert(s) match.	X				
3.2.2.6 Vessel image (stock file pic).	X				
3.2.2.7 Vessel image (EO or SAR image chip).		2	AG	3.0	
3.2.2.8 Ability to toggle history trail for vessel on/off.	X				
3.2.2.9 Vessel card links to full data and additional information	X				
3.2.2.10 Ability to add vessel to vessel list.	X				
3.2.2.11 Ability to shrink vessel cards (in order to take a snapshot of multiple vessel cards – separate requirement).	X				
3.2.2.12 Ability to open multiple vessel cards.	X				
3.2.2.13 Ability to export vessel card details.	X				
3.2.2.14 The system shall allow for all versions of Vessel Cards to be the same format and content.	X				
3.2.2.15 Ability for vessel cards to be dragged around the screen.	X				
3.2.2.16 The system shall allow for the ability to print directly from the vessel card.	X				
3.2.2.17 Ability for a user to manually enter additional information/notes (text or images) about vessels.	X				
3.2.2.18 Ability for user to configure what information is shown on the baseball card.	X				
3.2.3 HISTORICAL TRACK INFORMATION					
3.2.3.1 The system shall display vessel and track historical information.	X				
3.2.3.1.1 Default track (24 hrs).	X				
3.2.3.1.2 User defined time.	X				NMT 90 days
3.2.3.2 Multiple historical tracks can displayed simultaneously.	X				
3.2.3.2.1 Allow users to search multiple track histories up to 2 years.		3	NA		
3.2.3.3 Ability to export history trail in	X				

User Experience Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
KML, HTML, CSV, and PDF formats					
3.2.3.4 The system shall allow for when user 'hovers' curser over vessel on trail, to show 'Vessel Name' (either in addition to MMSI –or- in place of MMSI).	X				
3.2.3.5 The system shall allow for user to select a user defined group of vessels and be able to enable history trails for all of them at once.	X				
3.2.4 DISPLAY OF HISTORICAL DATA (TIME MACHINE)					
3.2.4.1 Shall allow visualization of positions of all vessels on specific date and time (up to 1 year ago).	X				
3.2.4.2 The system shall allow user the ability to list vessels that were present within an AO/EEZ/User Defined Shape during a user specified time frame (ie: back 7 days, btwn YYYY/MM/DD-7/time and YYY/MM/DD/time –OR- any two dates not to exceed 30 days).	X				Requirement met in "Search"
3.2.5 CONTACT DENSITY MANAGEMENT					
3.2.5.1 Display grid of vessel populations that adjust for selected area size.	X				
3.2.5.2 Change grid color to be representative of the overall level of understanding (LOA) within each grid box.			DR		LOA not implemented by DoD
3.2.5.3 Allow the user to turn the screen grid on or off when displayed vessel count below 300.	X				
3.2.5.4 Ability to easily view density of vessels by either shading of colors or map clustering		2	AG	3.0	

4. ANALYSIS

Top Level Requirement:

"NCCs/NFCs have a requirement for an advanced, automated analytical capability to integrate and correlate data and information in an Unclassified/Non-PKI environment in order to effectively collaborate with mission partners. Analysis includes providing the ability to develop a standardized set of user-defined queries and include automated business rules to integrate and correlate data necessary to conduct risk assessments, highlight anomalies, generate alerts and warnings that will assist in identifying potential threats and automatically notify users vice requiring analysts to pull assessment data from the system."

Definitions:

ALERT: The result of near real time *user* defined rules. All alerts are based upon a designated geospatial area.

WARNING: The result of a *system* defined rules based scoring function, currently based on the Coast Guard Port State Control Safety and Security Matrix.

USER DEFINED RULES (UDR): The result of user defined rules based multi-criterion vessel searches and scoring function that are created by the user & run automatically.

Alerts, Warnings & UDR will provide notifications via the SeaVision interface. Alerts may provide additional notification via text or email.

As the data management processes mature, so will the alerting processes. Early implementations of SeaVision allowed for Alerts to be applied against near real-time vessel position reports. Subsequent versions of SeaVision may include Alerts based on expanded data sets.

Warnings & Rules will be applied against one or more of the SeaVision databases. Each Rule will be run at interval that coincides with the update period of the associated databases.

	Search	Alert	Warning	Rule
Defined at System Level, Configured at Community Manager Level			X	
Defined at User Level	X	X		X
Saved	X	X	X	X
Ad-Hoc	X			
Scheduled		X	X	X
Scored			X	X
Near Real-time data	X	X		
Databased data	X		X	X

Table 1: Business Rule Type vs Rule Property

Automated positional data correlation will determine if position reports from several different sources (i.e. radar, AIS) in fact represent the same vessel, associate the multiple position reports and tag those positions reports as correlated in associated databases.

4.1 AUTOMATED BUSINESS RULES

Automated business rules apply to searches, alerts, warnings and user defined rules. Search, alerts, and rules definitions/results are managed at the following levels:

COMMUNITY: Managed at the community level by Community Managers. Results are available to designated communities, personas or users and may be used to initiate community, persona or user rules. Community rules are generally defined as those that provide results to multiple communities or multiple personas within a community.

PERSONA: Managed at the persona or user level by Persona Users. Results are available to designated personas or users and may be used to initiate persona or user rules. Persona rules are generally defined as those that provide results to users with the same persona.

USER: Managed at the community, persona or user level by a Community User. Results are available to designated communities, personas or creating user and may be used to initiate community, persona or user rules.

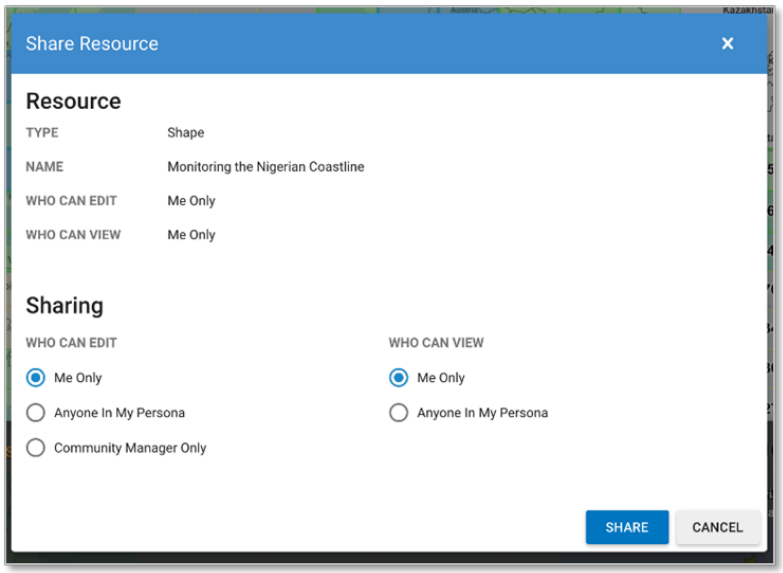

Figure 4: Share Resource/Rules Screen (Example)

Rules may be created by any user and assigned or transferred to the appropriate level to support mission objectives or workflows.

Automated Business Rules Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.1.1 GENERAL					
4.1.1.1 The system shall apply Rule Properties to the business rules as outlined in Table 1.	X				
4.1.1.1.1 User rules are managed by the rule creator.	X				
4.1.1.1.2 Warning, User Defined Rule, and Search elements are defined by the CVISR message.	X				
4.1.1.1.3 Alert and Filter elements are defined by an AIS message.	X				
4.1.1.1.4 Rules that have a geospatial component will start with the definition of the geospatial area.	X				
4.1.1.1.4.1 Saved geospatial areas will be presented to the user via the rule development interface.	X				
4.1.1.1.4.2 The user will be able to define an ad-hoc geospatial area for searches.	X				
4.1.1.1.5 The system shall use full Boolean capabilities for creating business rules.		3	NA		
4.1.1.1.6 The results of all business rules, except searches, will be save in a database.	X				
4.1.1.1.7 The system shall allow for the ability to list multiple IMOs separated by comma(s) in one condition.	X				
4.1.2 MANAGING BUSINESS RULES					
4.1.2.1 The system will allow for the management of business rules.	X				
4.1.2.2 The system shall allow for the Administrators to manage enterprise defined business rules.			DR		No operational need to share at Enterprise level
4.1.2.2.1 Create rule.			DR		
4.1.2.2.2 Save rule.			DR		
4.1.2.2.3 Edit/Update rule.			DR		

Automated Business Rules Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.1.2.2.4 Associate/transfer rule to Enterprise or Community			DR		
4.1.2.3 The system shall allow for the Community Manager to manage community defined business rules.	X				
4.1.2.3.1 Create rule.	X				
4.1.2.3.2 Save rule.	X				
4.1.2.3.3 Edit/Update rule.	X				
4.1.2.3.4 Delete rule.	X				
4.1.2.3.5 Associate/transfer rule to the enterprise, or a user or persona (if attributes match) in the same community.	X				
4.1.2.3.6 Filter community's user rules from CM's personal (user rules)		1	AG	2.x	
4.1.2.4 The system shall allow for a User to manage their own defined business rules.	X				
4.1.2.4.1 Create rule.	X				
4.1.2.4.2 Save rule.	X				
4.1.2.4.3 Edit/Update rule.	X				
4.1.2.4.4 Delete rule.	X				
4.1.2.4.5 Ability to associate/transfer a rule to same persona in the community or to another user in same persona.	X				
4.1.2.5 The system shall allow for onscreen notification when rules are about to expire.	X				
4.1.2.6 The system shall provide the ability to display onscreen notification when user has new vessels matching alerts or rules.	X				

4.2 SEARCH AND FILTER

An information Filter is an ad-hoc event. A Filter is applied to the data that is represented on the SeaVision screen. A Search is run against the full SeaVision data set that the user is authorized. All Searches are managed as business rules.

Search and Filter Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.2.1 GENERAL					
4.2.1.1 The system shall allow for user generated searches to be managed as business rules (Section 4.1.1).	X				
4.2.1.1.1 The system shall provide user defined or predefined AO/EEZs as one of selection criteria.	X				
4.2.1.1.1.1 The system shall provide user defined or predefined AO/EEZs (disputed) as one of selection criteria.	X				
4.2.1.1.2 The system shall provide predefined territorial waters (in predefined geospatial areas) as one of selection criteria.	X				
4.2.1.2 The system shall allow the user to develop ad-hoc business rules for executing searches.	X				
4.2.1.3 The system shall allow the user to select saved business rules for executing searches.	X				
4.2.1.4 The system shall allow the user to Search by history of changes (based on weekly IHS updates).		2	AG	3.0	
4.2.1.5 The system shall allow for the user to use the Label (of a Shape on the map) when selecting user defined shapes as Search Parameter.	X				
4.2.1.6 The system shall allow the use of wildcard (*) in 'Filter' [maybe also in 'Search', and other free-text areas].	X				
4.2.1.7 The system shall allow for the ability to select/de-select (data) sources in search.	X				
4.2.1.8 The system shall allow for the ability to add "Date" (days back) to query of 'Last Port of Call" (and others applicable) for Search and UDR.	X				
4.2.1.9 The system shall allow for the ability to add "Date" (from / to) to query of 'Last Port of Call" (and others applicable) for Search and UDR.	X				

Search and Filter Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.2.1.10 The system shall allow for the ability to query all info contained in "AIS Port & EEZ History" as criteria of new field "Previous Ports" element as a Condition for Search and UDR.	X				
4.2.1.11 The system shall allow for the ability to query "Safety/Security Scores" (with user specified 'score range') as a Condition for Search and UDR.			DR		No operational need
4.2.1.12 Allow for the ability to query "Vessel List"		1	AG	2.x	
4.2.1.13 Allow users to search on this list of vessels that were present within an AO/EEZ/User Defined Shape during a user specified time frame (ie: back 7 days, btwn YYYY/MM/DD-7/time and YYY/MM/DD/time –OR- any two dates not to exceed NN days).	X				
4.2.2 SEARCH RESULT DISPLAY					
4.2.2.1 The system shall provide a formatted display of search results.	X				
4.2.2.1.1 Initial search results will return a tabulated subset of available information grouped by vessel.	X				
4.2.2.1.2 Initial search results will return a tabulated, user define subset of information grouped by vessel.	X				
4.2.2.1.3 Selection of a vessel from initial search results will return a full set of information as defined by CVISR model.			DR		CVISR not implemented by DoD

4.3 ALERTS (NEAR REAL-TIME USER DEFINED)

Alerts are the result of near real time user defined rules run against AIS messages and radar position reports. Alerts will be developed and managed as business rules. Alerts results do not have scores.

Alert Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.3.1 GENERAL					
4.3.1.1 The system shall allow for user generated alerts to be managed as business rules (Section 4.1.1).	X				
4.3.1.2 Alerts shall be run against near real-time data.	X				
4.3.1.2.1 The elements used for alerts will be in an AIS message.	X				
4.3.1.2.2 Alerts will *start* with the designation of a targeted geospatial area.	X				
4.3.1.2.2.1 The system shall allow for the ability to edit waypoints for user defined/created polygon after the polygon has been created.	X				
4.3.1.2.2.2 The system shall provide an interface to user defined shapes (create, edit, select) to be used as Alert criteria.	X				
4.3.1.2.3 The system shall allow for the ability to alert of 'change of' criteria.		2	AG	3.0	
4.3.1.2.4 Add radar and other positional data to the alerts tool (alert when non-AIS positions enter or exit ROI, would not support other criteria).		2	AG	3.0	
4.3.1.2.5 Provide alerts based on satellite AIS data.		1	AG	2.x	
4.3.1.3 Alerts shall be presented to user via one or more of the following:	X				
4.3.1.3.1 SeaVision Dashboard.	X				
4.3.1.3.2 Notification in SeaVision interface.	X				
4.3.1.3.3 Email notification.	X				
4.3.1.3.4 Text message notification via RSS Feed.		3	AG		
4.3.1.3.5 Chat message.			DR		No operational need
4.3.1.4 The result of an Alert may trigger the execution of a business rule.			DR		Poorly worded requirement
4.3.2 ALERT RESULT DISPLAY					

Alert Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.3.2.1 The system shall provide a formatted display of Alerts.	X				
4.3.2.2 The system shall display the number of time the Alert was triggered.	X				
4.3.2.3 The system shall keep Alerts results for no more than 7 days.	X				
4.3.2.4 The system shall allow the user to select time range of results shown (up to 7 days).	X				
4.3.2.5 The system shall indicate which alerts were triggered and when for specific individual vessels.	X				
4.3.2.6 The system shall allow for when the user clicks on a Vessel Name in the Alert results table, that the Map mode pops up with the respective ship highlighted.	X				
4.3.3 ALERT ANALYTICS					
4.3.3.1 The system shall allow users to view the number of vessels matching each alert over time.		3	AG		
4.3.3.1.1 The time frame and increment shall be user configurable (i.e. 1 day, 1 week)		3	AG		
4.3.3.1.2 Analytics will only be available for alerts which are active.		3	AG		

4.4 WARNINGS (USCG MATRIX SYSTEM DEFINED RULES / SCORING)

Warnings are the result of a system defined rules based scoring function, currently the Coast Guard Port State Control Safety and Security Matrix.

Warnings Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.4.1 GENERAL					
4.4.1.1 The system shall allow for Warnings to be managed as business rules (Section 4.1.1).	X	3	AG		

Warnings Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.4.1.2 The system shall be automatically calculated Warning scores based on the USCG Port Security Matrix.	X				
4.4.1.2.1 The user can adjust score/weight of the Warning criteria within the USCG Port Security Matrix.			DR		SV 1.0 Requirement
4.4.1.2.2 The Community Manger can adjust score/weight of the Warning criteria within the USCG Port Security Matrix for each Persona within their Community	X				
4.4.1.2.3 Users shall be able to view individual criteria contributing to the Warning scores.	X				
4.4.1.3 Scores shall be updated NLT every 12 hours.		2	AG	3.0	
4.4.2 WARNING RESULT DISPLAY					
4.4.2.1 Warning scores shall be presented to user via a SeaVision interface.	X				
4.4.3 WARNING ANALYTICS					
4.4.3.1 The systems shall allow the user to view and customize analysis of warning scores over time.		3	AG		

4.5 USER DEFINED RULES (UDR)

User Defined Rules (UDRs) are the result of user defined rules based scoring function. Components of UDR may include Warnings scores

Notification Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.5.1 GENERAL					
4.5.1.1 The system shall allow for UDRs to be managed as business rules (Section 4.1.1).	X				
4.5.1.2 UDRs shall be run at a user defined period but NLT every 6 hours. Default period is 24 hours.	X				
4.5.1.2.1 The result of an Alert may			DR		Poorly worded

Notification Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
trigger the execution of a Notification business rule.					requirement
4.5.1.3 System shall allow users to associate score with each UDR business rule.	X				
4.5.1.4 System shall allow user to specify High, Medium, and Low boundaries for Rules.	X				
4.5.1.5 System shall allow export of results in defined formats.	X				
4.5.1.5.1 KML.	X				
4.5.1.5.2 XML.	X				
4.5.1.5.3 CSV.	X				
4.5.1.6 System shall de-activate/expire an UDRrules after 30 days without user validation.	X				
4.5.1.7 The system shall use predefined AO/EEZs as one of selection criteria.	X				
4.5.1.7.1 The system shall use predefined AO/EEZs (disputed) as one of selection criteria.	X				
4.5.1.7.2 The system shall allow for a user to run a single Rule on demand.	X				
4.5.1.7.2.1 The system will show timestamp to the user for last run-time (ie: 'last user-request to run' –and- 'last automatic run'.	X				
4.5.1.8 The system shall provide Day-Time-Group (DTG) as a field within export of results.	X				
4.5.1.9 The system shall allow user to select which fields to include in export of results.	X				
4.5.2 NOTIFICATION RESULT DISPLAY					
4.5.2.1 The system shall display formatted UDR results.	X				
4.5.2.1.1 The system shall provide all UDR rules and scores grouped by vessel.	X				
4.5.2.1.2 The system shall allow for when the user clicks on a Vessel Name in the UDR results table, the Map mode pops up with the respective ship highlighted.	X				

Notification Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.5.3					
4.5.3.1 The system shall allow users to view and configure analysis of notification results over time.	X				

4.6 AUTOMATED CORRELATION OF POSITION DATA

Automated correlation of position data identifies which position reports from two sources (i.e. RADAR, AIS, Satellite Imagery based positions) represent the same vessel, records and presents this information to avoid display of duplicate vessel contacts and as an indication of one possible type of "anomaly", (i.e. non AIS emitting vessels).

Automated Correlation of Position Data Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
4.6.1 GENERAL					
4.6.1.1 System shall automatically correlate the following data sources.		3	AG		
4.6.1.1.1 Real time AIS and real time coastal radar.	X				
4.6.1.1.2 Satellite imagery based contacts and time coincident AIS.	X				
4.6.1.1.3 Time late AIS and real time radar.		3	NA		
4.6.1.2 The system shall correlate any data from any source if provided in approved types/formats.	X				
4.6.2 CORRELATED TRACK RESULT DISPLAY					
4.6.2.1 The system shall allow users to select/deselect for display only correlated tracks.	X				
4.6.2.2 The system shall color code contacts differently for those correlated and uncorrelated.	X				
4.6.2.3 The system shall display all information (i.e. AIS information) for correlated contacts.	X				

5. ACCESS TO DATA

Top Level Requirement:

"For missions of Maritime Security, NCCs/NFCs have a requirement for data from various sources to include, but not limited to, Global, Space & Terrestrial Automated Identification System (AIS), commercial radar satellite, and other open-source commercial sites that provide: ship position, characteristics, movement, history, identification, ownership, cargo, crew, imagery, port facilities and economic trends within a designated AOR."

Data access controls will be managed at the community/persona level. Data will be assigned to one or more personas within communities and users will gain access via community membership.

As SeaVision and community partners mature, data management and user attributes will migrate towards those defined in the National MDA Architecture Plan. Data products published to or consumed from the MISE[2] will comply with the Architecture Plan.

SeaVision will publish and consume data using structured information formats. Initial formats include NMEA 0183 (AIS & radar targets), XML (NIEM CVISR[3] and commercial data) and bulk SQL data exports.

While a variety of data sources can be made available via SeaVision, only those identified as "enterprise" will be provided as a function of SeaVision. All other data sources will be identified and funded by the requesting Community Managers.

5.1 DATA MANAGEMENT

Maritime information is available in a variety of formats and styles. To help improve processing time, reduce overall costs, align with standard SOA practices and comply with the National MDA Architecture Plan, data will be provided in a standardized format.

Data Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
5.1.1 GENERAL					
5.1.1.1 Data storage and management shall the responsibility of the enterprise.	X				
5.1.1.2 Data sources shall be added in a timely manner.		1	AC	2.x	

[2] Maritime Information Sharing Environment (MISE) is defined in the National MDA Architecture Plan
[3] National Information Exchange Model Consolidated Vessel Information and Security Report

Data Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
5.1.1.2.1 New data sources, once approved and funded, shall be added NMT 15 working days from receipt of sample data.		1	AC	2.x	
5.1.1.2.2 New data shall be available to users NMT 5 working days from receipt of data.		1	AC	2.x	
5.1.1.3 The system shall allow for the ability to import data products.	X				
5.1.1.3.1 Bulk SQL data.	X				
5.1.1.3.2 KMZ / KML	X				
5.1.1.3.3 CSV			DR		Not applicable
5.1.1.3.4 TXT			DR		Not applicable
5.1.1.3.5 HTML			DR		Not applicable
5.1.1.3.6 JSON	X				
5.1.1.4 The system shall allow for the ability to export data products.	X				
5.1.1.4.1 KMZ	X				
5.1.1.4.2 CSV	X				
5.1.1.4.3 TXT	X				
5.1.1.4.4 HTML	X				
5.1.1.4.5 PDF			DR		Captured in section 5.1.1.5
5.1.1.4.6 JSON	X				
5.1.1.5 The system shall allow for the generation of finished reports.		1	AG	2.x	
5.1.1.5.1 PDF		1	AG	2.x	
5.1.1.5.2 DOC		2	AG	3.0	
5.1.1.5.3 PPT		2	AG	3.0	
5.1.1.5.4 System shall have ability to create/export user defined Custom Vessel Report (excel or csv).		2	AG	3.0	Data fields include: Vessel Name , IMO, Flag, Type, MMSI, Call Sign, Status, Destination, ETA, Age, Source, Lat/Lon, Registered Owner
5.1.2 DATA SOURCES					

Data Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
5.1.2.1 The system shall provide access to the following Enterprise managed and sponsored data sources.	X				
5.1.2.1.1 MSSIS.	X				
5.1.2.1.2 System generated alerts, warnings, and notifications.	X				
5.1.2.1.3 Satellite AIS.	X				
5.1.2.1.4 IHS Fairplay.	X				
5.1.2.2 The system shall support access to the marine data sources or products.	X				
5.1.2.2.1 Coastal RADAR.	X				
5.1.2.2.2 Satellite RADAR.	X				
5.1.2.2.3 Satellite Imagery Based Positions (EO and SAR).	X				
5.1.2.2.4 Vessel Images.	X				
5.1.2.2.5 Other positional data in approved formats.	X				
5.1.2.3 Community Managers shall have the ability to edit display names or descriptions of data sources assigned to their community		1	NA		
5.1.3 DATA TYPES					
5.1.3.1 The system shall provide access to the following data types.	X				
5.1.3.1.1 NMEA 0183 • AIS • RADAR tracks • Vessel Position & Characteristics	X				
5.1.3.1.2 eXtensible Markup Language (XML) • NIEM CVISR Message (DR) • Other XML data o Port History & Facilities o Ownership, Cargo & Crew o Vessel Position & Characteristics o Economic Trends	X				
5.1.3.1.3 Keyhole Markup Language (KML) • NIEM CVISR Message (DR) • Any other compliant layer	X				

Data Management Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
5.1.3.1.4 JavaScript Object Notation	X				
5.1.4 DATA ACCESS CONTROLS					
5.1.4.1 The system shall manage data access to users by source.			DR		Requirement for 1.0 only
5.1.4.2 The system shall evenly apply data source permissions to all modules.	X				
5.1.4.3 The system shall manage data access to personas by record.	X				
5.1.4.3.1 Source data will be tagged with data attributes by Administrators.	X				
5.1.4.3.2 Administrators manage what source data Community Managers see based on authorized data attributes.	X				
5.1.4.3.3 Community managers manage what source data Personas hold.	X				
5.1.4.3.4 Community managers manage which personas individual users are authorized to be members of.	X				
5.1.4.4 The system shall manage data access as defined in the National MDA Architecture Plan.			DR		Not Applicable
5.1.4.5 The system shall gray out user allowed functions that are disabled instead of not showing at all.	X				
5.1.4.6 The system shall not show functions or data to a user that the user is not authorized to use.	X				

6. INFORMATION SHARING

Top Level Requirement:

"For missions of maritime forward presence (FP), maritime homeland defense (MHD), maritime homeland security (MHS), defense support of civil authorities (DSCA), and foreign humanitarian assistance (FHA), NCCs/NFCs have a requirement for automated two-way sharing of information with mission partners on a one-to-one or a one-to-many basis, to enable collaboration in support of Combatant Commander plans. Additionally, mission partners should be able to contribute their own agreement sets of data in a standardize format to the information sharing environment."

6.1 AUTOMATED MACHINE-TO-MACHINE SERVICES

SeaVision REST APIs are machine-to-machine services that provide programmatic access to read and write data in SeaVision. These enable mission partners with their own MDA systems a secure mechanism to exchange data with SeaVision via standard formats. Additionally, the SeaVision REST APIs enable the integration of features and data from SeaVision into widgets. While widget frameworks allow users to easily access any online site, i.e. SeaVision, the SeaVision REST APIs provide the machine-to-machine access to features and data in SeaVision to enable development of new capability via custom widgets to interact with other applications.

SeaVision REST APIs provide read access to various information products within SeaVision, including: Vessel Positions, Vessel Details, Vessel (Baseball) Cards, Vessel Lists, Rule Results, Alert Results, Search Results, Warning Scores, and User Defined Shapes. Standard formats include JSON, NIEM-based XML Messages, and KML.

Automated Machine-to-Machine Services Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
6.1.1 GENERAL					
6.1.1.1 The system shall allow for the ability to automatically exchange information via web services.		2	AC	3.0	
6.1.1.1.1 Publish data.		2	AC	3.0	
6.1.1.1.1.1 NMEA 0183			DR		N/A for section 6.1
6.1.1.1.1.2 OTH-Gold		2	AC	3.0	
6.1.1.1.1.3 XML (NIEM)		2	AC	3.0	NIEM 4.0 Position Report NIEM 4.0 Vessel Information
6.1.1.1.1.4 JSON		2	AC	3.0	
6.1.1.1.1.5 KML		2	AC	3.0	

Automated Machine-to-Machine Services Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
6.1.1.1.1.6 PDF			DR		PDF is not a web service format
6.1.1.1.2 Consume data.		2	AC	3.0	
6.1.1.1.2.1 NMEA 0183			DR		N/A for section 6.1
6.1.1.1.2.2 NIEM		2	AC	3.0	NIEM 4.0 Position Report NIEM 4.0 Vessel Information
6.1.1.1.2.3 OTH-Gold		2	AC	3.0	
6.1.1.1.2.4 KML		2	AC	3.0	
6.1.1.1.2.5 WMS			DR		N/A for section 6.1

6.2 COLLABORATION

Collaboration Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
6.2.1 CHAT					
6.2.1.1 The system shall provide for the ability to manage named chat rooms.		1	AG	2.x	
6.2.1.1.1 The user shall have the ability to create new chat rooms.		1	AG	2.x	
6.2.1.1.2 The user shall have the ability to delete existing chat rooms.		1	AG	2.x	
6.2.1.1.3 The user shall have the ability to password protect an owned chat room.		1	AG	2.x	
6.2.1.1.4 The system shall have the ability to allow the contents of a chat room to remain persistent.		1	AG	2.x	
6.2.1.1.5 The user shall have the ability to designate an owned chat room as public or private.		1	AG	2.x	
6.2.1.1.6 The user shall have the ability to designate access lists for owned private chat rooms.		1	AG	2.x	

Collaboration Requirements Description	Requirement Status				
	Present Function	Implementation Status			Comments
		Pri	Status	Release	
6.2.2 EMAIL					
6.2.2.1 The system shall provide for the ability to send email.	X				
6.2.2.1.1 The system must be able to attach files as required.	X				
6.2.2.1.2 The system must be able to set email distribution to either an individual or user defined groups.	X				
6.2.2.2 The system shall provide for the ability to receive email.	X				